the matrix being formed by a method comprising emulsifying a polymer solution, the therapeutic or prophylactic agent, hydrophobic or amphiphilic compound, and pore forming agent, then removing solvent and pore forming agent to produce a matrix [, to a patient].

Remarks

The Interview

The applicants and undersigned greatly appreciate the interview on February 21, 2002. The claims have been amended to incorporate the same limitations as in the parent application. A copy of the declaration providing comparative results distinguishing the prior art compositions that was filed in the parent application is also enclosed.

Rejections under 35 U.S.C. section 102

Claims 20-31, and 34 were rejected under 35 U.S.C. section 102(e) as disclosed by U.S. Patent No. 5,855,913 to Hanes. Claims 20-24, and 27-32 were rejected under 102(e) as disclosed by U.S. Patent No. 5,942,253 to Gombotz, et al. Claims 20-24, 27-30, 31, and 33 were rejected under 35 U.S.C. 102(b) as disclosed by U.S. Patent No. 3,776,001 to Hanke These rejections are respectfully traversed if applied to the amended claims.

Anticipation requires the disclosure, in a single prior art reference, of every element of the claim. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81, 90 (Fed. Cir. 1986). Absence of a claimed element from a prior art reference negates anticipation. *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 224 U.S.P.Q. 409 (Fed. Cir. 1984).

The prior art references cited by the Examiner fail to disclose all the limitations of the claimed compositions and methods. This is proven by the comparative data that is submitted with this amendment.

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The claims are drawn to:

A method of administering a matrix for delivery of a therapeutic or prophylactic agent, wherein the matrix is formed of a biocompatible polymer having incorporated therein

a therapeutic or prophylactic agent and

an effective amount of a hydrophobic or amphiphilic compound incorporated within the matrix to modify the diffusion of water into the matrix and the release of the therapeutic or prophylactic agent from the matrix by dissolution of the agent in the water which diffuses into the matrix,

wherein the drug is released over shorter periods of time as compared to release from matrices not incorporating the hydrophobic or amphiphilic compound,

wherein the matrix is formed by emulsifying a pore forming agent with a polymer solution and then removing the pore forming agent and solvent.

By virtue of the method of manufacture, functional differences with respect to release are invariably achieved. The examiner's attention is drawn to paragraph 5, beginning on page 3 of the enclosed Declaration. The release characteristics of the particles described by Hanes is compared with the release from the particles as defined by applicants' claims. See Exhibit C. The line at the top of the graph (solid diamonds, made as claimed by applicants) is release from the claimed particles. The lines at the bottom of the graph (open squares, drug-surfactant-polymer microparticles, made as described by Hanes; open circles, drug-polymer microparticles, made as described by Hanes) show release from spray dried particles prepared without pore forming agents.

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Note that the drug, surfactant and polymer is the same for applicants' formulation and the Hanes' formulation containing surfactant. The difference is in the method of manufacture.

These results prove that the prior art microparticles are not the same as the claimed microparticles because the release characteristics, which are a direct result of the method of manufacture, are different. These release characteristics are proof that the structure is different from that the prior art.

The same comparative data is equally applicable to Gombotz and Hanke, neither of which disclose a process which removes solvent and pore forming agent to create a matrix in which the hydrophobic agent and therapeutic or prophylactic agent is dispersed therein.

In summary, the materials of the prior art, and the claimed materials, are different in terms of method of manufacture, the resulting structure, and the ensuing release characteristics, and therefore the claimed method of administration is different from that defined by the prior art.

Allowance of claims 21-34 is therefore earnestly solicited.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the enclosed Amendment and all documents shown as being attached is being facsimile transmitted to the U. S. Patent and Trademark Office on the date shown below.

Date: February 22, 2002

Jean Hicks

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APPENDIX: Marked up Claims as Amended

20. (twice amended) A method for administering a therapeutic or prophylactic agent comprising administering to a patient a [polymeric] matrix for delivery of a therapeutic or prophylactic agent,

wherein the matrix is formed of a biocompatible polymer having incorporated therein an therapeutic or prophylactic agent and an effective amount of a hydrophobic or amphiphilic compound to modify the diffusion of water into the matrix and the release of the therapeutic or prophylactic agent from the matrix, wherein the drug is released over shorter periods of time as compared to release from matrices not incorporating the hydrophobic or amphiphilic compound,

the matrix being formed by a method comprising emulsifying a polymer solution, the therapeutic or prophylactic agent, hydrophobic or amphiphilic compound, and pore forming agent, then removing solvent and pore forming agent to produce a matrix [, to a patient].

21. The method of claim 20 wherein the matrix is in the form of microparticles.

22. The method of claim 20 wherein the hydrophobic or amphiphilic compound is incorporated into the matrix at a ratio of between 0.01 and 60 by weight of hydrophobic compound to weight of polymer.

23. The method of claim 20 wherein the hydrophobic or amphiphilic compound is a lipid incorporated into the matrix at a ratio of between 0.01 and 30 (weight lipid/weight matrix material).

24. The method of claim 23 wherein the lipid is selected from the group consisting of fatty acids and derivatives, mono-, di and triglycerides, phospholipids, sphingolipids, cholesterol and steroid derivatives, oils, vitamins and terpenes.

25. The method of claim 24 wherein the lipid is a phospholipid selected from the group consisting of phosphatidic acids, phosphatidyl cholines with both saturated and unsaturated lipids, phosphatidyl ethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, lysophosphatidyl derivatives, cardiolipin, and β-acyl-y-alkyl phospholipids.

26. The method of claim 25 wherein the phospholipid is selected from the group consisting of dioleoylphosphatidylcholine, dimyristoylphosphatidylcholine, dipentadecanoylphosphatidylcholine dilauroylphosphatidylcholine, dipalmitoylphosphatidylcholine, distearoylphosphatidylcholine, diarachidoylphosphatidylcholine, dibehenoylphosphatidylcholine, ditricosanoylphosphatidylcholine, dilignoceroylphatidylcholine; and phosphatidylethanolamines.

27. The method of claim 20 wherein the agent is a therapeutic agent.

28. The method of claim 20 wherein the matrix is formed of a bioadhesive polymer.

29. The method of claim 20 wherein the matrix is formed of a polymer selected from the group consisting of poly(hydroxy acids), polyanhydrides, polyorthoesters, polyamides, polycarbonates, polyalkylenes, polyalkylene glycols, polyalkylene oxides, polyalkylene terepthalates, polyvinyl alcohols, polyvinyl ethers, polyvinyl esters, polyvinyl halides, polyvinylpyrrolidone, polysiloxanes, poly(vinyl alcohols), poly(vinyl acetate), polystyrene, polyurethanes and co-polymers thereof, synthetic celluloses, polyacrylic acids, poly(butyric acid), poly(valeric acid), and poly(lactide-co-caprolactone), ethylene vinyl acetate, copolymers and blends thereof.

30. The method of claim 20 wherein the matrix is formed of a protein or polysaccharide.

31. The method of claim 20 wherein the matrix is in a pharmaceutically acceptable carrier for topical application or application to a mucosal surface.

32. The method of claim 20 wherein the matrix is in a pharmaceutically acceptable carrier for injection.

33. The method of claim 20 wherein the matrix is formulated for administration rectally or vaginally.

34. The method of claim 21 wherein the microparticles are formulated for pulmonary administration.